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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,839	08/04/2003	Yoav Valadarsky	82525	5057

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NATH & ASSOCIATES
112 South West Street
Alexandria, VA 22314

EXAMINER

O CONNOR, BRIAN T

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/632,839	VALADARSKY ET AL.	
	Examiner	Art Unit	
	Brian T. O'Connor	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/4/2003</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 1A contains the reference word "**PHD**" on the top left and there is no definition of said "**PHD**" in the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

of the following is required: The terms "PDH" and "SDH" recited in claims 11, 12, 15, and 20 are not clearly defined in the specification.

3. The abstract of the disclosure is objected to because the abstract contains more than one paragraph and contains more than 150 words; according to 37 CFR 1.72 (b) the abstract may not exceed 150 words in length and must be limited to a single paragraph. Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claim 14 is objected to because of the following informalities: Claim 14 does not clearly describe the module(s) or a relationship between the switching device modules and a cellular communication network so that the switching device operates on data streams related to the cellular communication network. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "**the basic switching fabric**" on line 2. There is insufficient antecedent basis for this limitation in the claim or any of its parent claims (claims 1, 6, and 7).

Claim 9 recites the limitation "**the basic switching fabric**" on line 3-4. There is insufficient antecedent basis for this limitation in the claim or any of its parent claims (claims 1, 6, and 7).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-6, 10, 11, 13, 16-19, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Parruck et al. (US 7,139,271; hereafter Parruck).

With respect to claim 1, Parruck discloses a router (100 of Figure 4) for supporting Local Area Networks (LANs) and Metro Area Networks (MANs), the router contains multiple Input/Output I/O ports (115, 116, 117, 118, 136, 137 of Figure 4) for receiving and sending network information carried by ATM or Internet protocols, an internal switch fabric (105 of Figure 4) that works with PCI protocols on a SPI-4 bus, multiple line cards (1010, 102, 103, 104 of Figure 4, 125, 126 of Figure 5; viewed as adaptation functional blocks) connected to the switch fabric and performing conversion of incoming information to a format compatible with the switch fabric; and a PCI bus (131 of Figure 4, 124 of Figure 5; viewed as a distribution block) that classifies incoming

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information from the I/O ports and set a connection to a Multi-Service SAR for processing and forwarding to the switch fabric.

With respect to claim 2, Parruck further discloses the switching fabric performs ATM functions by identifying incoming cells as ATM cells and processing in accordance with the identification (column 13, lines 8-35).

With respect to claim 3, Parruck further discloses the Ingress MS-SAR device (viewed as equivalent to an adaptation functional block) is responsible for reading an incoming cell/packet's identification and processing/forwarding to the switch fabric and thus is an integral part of the switch fabric (column 13, lines 8-35).

With respect to claim 4, Parruck further discloses the PCI bus (131 of Figure 4; viewed as equivalent to a distribution block) is connected to every input interface port and every output interface port.

With respect to claim 5, Parruck further discloses the PCI bus (131 of Figure 4; viewed as equivalent to a distribution block) is connected to every input interface port and every output interface port.

With respect to claim 6, Parruck further discloses the PCI bus (131 of Figure 4; 131 of Figure 5; viewed as equivalent to a distribution block) is connected to an ingress device (125 of Figure 5); connected to an egress device (126 of Figure 5); and connected to every input interface port and every output interface port therefore allowing information to enter and exit the PCI bus.

With respect to claim 10, Parruck further discloses a reassembly device (205 of Figure 10) and interface monitoring device (206 of Figure 10) for check the full status of

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outgoing and incoming queues; if the status is full then no more cells/packets are added those queues therefore protection from data loss is provided by a control interface to the PCI bus (column 20, lines 7-45).

With respect to claim 11, Parruck further discloses that the router processes incoming data information conforming to the ATM protocol (115, 116 of Figure 4).

With respect to claim 13, Parruck further discloses that the line cards (101, 102, 103, 104 of Figure 4; viewed as equivalent to adaptation functional blocks) contain multi-service SAR devices (126 of Figure 5) for performing egress operations. The egress operations of the line cards are viewed as equivalent to inverse multiplexing over ATM operations because they accept a number of ATM processed flows from the switch fabric and time-multiplex the flows out of a port (136 of Figure 4).

With respect to claim 16, Parruck discloses a router (100 of Figure 4) for supporting Local Area Networks (LANs) and Metro Area Networks (MANs), the router contains multiple Input/Output I/O ports (115, 116, 117, 118, 136, 137 of Figure 4) for receiving and sending network information carried by ATM or Internet protocols, an internal switch fabric (105 of Figure 4) that works with PCI protocols on a SPI-4 bus, multiple line cards (101, 102, 103, 104 of Figure 4, 125, 126 of Figure 5; viewed as adaptation functional blocks) connected to the switch fabric and performing conversion of incoming information to a format compatible with the switch fabric; and a PCI bus (131 of Figure 4, 124 of Figure 5; viewed as a distribution block) that classifies incoming information from the I/O ports and set a connection to a Multi-Service SAR for processing and forwarding to the switch fabric. In addition, the router has line cards

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(103, 104 of Figure 4) that sending data flows out of the router via I/O ports (118, 137 of Figure 4) and the I/O ports are separated from the switch fabric and line card by multi-service SAR devices (125, 126 of Figure 5) so that adaptive connects are conducting between I/O ports on one side and line card on the other side of the router.

With respect to claim 17, Parruck further discloses the switching fabric performs ATM functions by identifying incoming cells as ATM cells and processing in accordance with the identification (column 13, lines 8-35).

With respect to claim 18, Parruck further discloses that the line cards (101, 102, 103, 104 of Figure 4; viewed as equivalent to adaptation functional blocks) contain multi-service SAR devices (126 of Figure 5) for performing egress operations. The egress operations of the line cards are viewed as equivalent to inverse multiplexing over ATM operations because they accept a number of ATM processed flows from the switch fabric and time-multiplex the flows out of a port (136 of Figure 4).

With respect to claim 21, Parruck further discloses line cards (1010, 102, 103, 104 of Figure 4, 125, 126 of Figure 5; viewed as adaptation functional blocks) are performing conversion of incoming information to a format compatible with the switch fabric.

With respect to claim 19, Parruck discloses a method for switching data flows in a LAN or MAN with a router (100 of Figure 4), the router contains multiple Input/Output I/O ports (115, 116, 117, 118, 136, 137 of Figure 4) for receiving and sending network information carried by ATM or Internet protocols, an internal switch fabric (105 of Figure 4) that works with PCI protocols on a SPI-4 bus, multiple line cards (1010, 102, 103,

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104 of Figure 4, 125, 126 of Figure 5; viewed as adaptation functional blocks) connected to the switch fabric and performing conversion of incoming information to a format compatible with the switch fabric; and a PCI bus (131 of Figure 4, 124 of Figure 5; viewed as a distribution block) that classifies incoming information from the I/O ports and set a connection to a Multi-Service SAR for processing and forwarding to the switch fabric. In addition, the router has line cards (103, 104 of Figure 4) that sending data flows out of the router via I/O ports (118, 137 of Figure 4) and the I/O ports are separated from the switch fabric and line card by multi-service SAR devices (125, 126 of Figure 5) so that adaptive connects are conducting between I/O ports on one side and line card on the other side of the router in a format of ATM or Internet protocols.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parruck in view of Tsukamoto et al. (US 6,498,794; hereafter Tsukamoto).

With respect to claim 7, Parruck fails to disclose an additional switch fabric with additional functional blocks.

Tsukamoto, in an analogous field of endeavor, discloses an ATM processing block (Abstract) contains an extra switch fabric (36 of Figure 4; column 7, lines 12-28) with extra control modules (40 of Figure 4).

Tsukamoto realizes the benefit of greater efficiency in processing ATM flows over SONET channel by mapping cells to specific signals in a network router (column 1, lines 60-67). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Tsukamoto with the device of Parruck.

With respect to claim 8, Parruck fails to disclose an additional switch fabric that is the same type as the first switch fabric.

Tsukamoto, in an analogous field of endeavor, discloses an ATM processing block (Abstract) contains an extra switch fabric (36 of Figure 4; column 7, lines 12-28) that performs cross-connection processing (column 7, lines 14-16) in the same manner as the switch fabric of Parruck.

Tsukamoto realizes the benefit of greater efficiency in processing ATM flows over SONET channel by mapping cells to specific signals in a network router (column 1, lines 60-67). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Tsukamoto with the device of Parruck.

With respect to claim 9, Parruck fails to disclose an additional switch fabric with additional functional blocks that uses a separate protocol for processing data flows.

Tsukamoto, in an analogous field of endeavor, discloses an ATM processing block (Abstract) contains an extra switch fabric (36 of Figure 4; column 7, lines 12-28) with extra control modules (40 of Figure 4) that processes the ATM cells with VT level signaling protocols.

Tsukamoto realizes the benefit of greater efficiency in processing ATM flows over SONET channel by mapping cells to specific signals in a network router (column 1, lines

60-67). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Tsukamoto with the device of Parruck.

11. Claims 12, 15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parruck in view of Slater (US 6,240,106).

With respect to claim 12, Parruck fails to specifically teach processing PDH and SDH/SONET high order and low order data flows. However Parruck does teach that the PCI bus (viewed as the distribution block) is connected to multi-service SAR modules (125, 126 of Figure 5) that perform data flow processing.

Slater, in a similar field of endeavor, discloses a SDH de-multiplexing device (6 of Figure 1; 20, 21, 25, 28, 30, 32, 35, 36 of Figure 2) for processing SDH data signals (column 2, lines 31-36), high order components (column 2, lines 54-58), low order components (column 3, lines 5-7), and is compatible with PDH signal processing (column 4, lines 1-9). One of ordinary skill in the art would realize that the SAR modules of Parruck could be programmed so they perform SDH de-multiplexing as taught by Slater.

One of ordinary skill in the art would realize the benefit of greater market applicability and growth by handling SDH and PDH data flows in a router/switch device. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Slater with the device of Parruck.

With respect to claim 15, Parruck fails to specifically teach processing PDH and SDH/SONET high order and low order data flows. However Parruck does teach that the PCI bus (viewed as the distribution block) is connected to multi-service SAR

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modules (125, 126 of Figure 5; viewed as means for formatting data flows) that perform data flow processing.

Slater, in a similar field of endeavor, discloses a SDH de-multiplexing device (6 of Figure 1; 20, 21, 25, 28, 30, 32, 35, 36 of Figure 2) for processing SDH data signals (column 2, lines 31-36), high order components (column 2, lines 54-58), low order components (column 3, lines 5-7), and is compatible with PDH signal processing (column 4, lines 1-9). Slater also teaches a SDH multiplexing device (4 of Figure 1) for sending data flows in a SDH/SONET format. One of ordinary skill in the art would realize that the SAR modules of Parruck could be programmed so they perform SDH de-multiplexing and multiplexing as taught by Slater.

One of ordinary skill in the art would realize the benefit of greater market applicability and growth by handling SDH and PDH data flows in a router/switch device. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Slater with the device of Parruck.

With respect to claim 20, Parruck fails to specifically teach processing PDH and SDH/SONET high order and low order data flows. However Parruck does teach that the switching fabric performs ATM functions by identifying incoming cells as ATM cells and processing in accordance with the identification (column 13, lines 8-35).

Slater, in a similar field of endeavor, discloses a SDH de-multiplexing device (6 of Figure 1; 20, 21, 25, 28, 30, 32, 35, 36 of Figure 2) for processing SDH data signals (column 2, lines 31-36), high order components (column 2, lines 54-58), low order components (column 3, lines 5-7), and is compatible with PDH signal processing

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(column 4, lines 1-9). Slater also teaches a SDH multiplexing device (4 of Figure 1) for sending data flows in a SDH/SONET format. One of ordinary skill in the art would realize that the SAR modules of Parruck could be programmed so they perform SDH de-multiplexing and multiplexing as taught by Slater.

One of ordinary skill in the art would realize the benefit of greater market applicability and growth by handling SDH and PDH data flows in a router/switch device. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Slater with the method of Parruck.

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parruck in view of Ofek et al. (US 7,139,277; hereafter Ofek).

With respect to claim 14, Parruck does not explicitly teach using the router in a cellular communication network.

Ofek, in a related field of endeavor, discloses a SONET traffic switch (002, 450, 455, 490 of Figure 4A) that can be used to access wireless sub-networks (column 4, lines 4-18).

One of ordinary skill in the art would realize the benefit of greater market applicability and growth by using the router or switch of Parruck with a wireless network as taught by Ofek. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Ofek with the device of Parruck.

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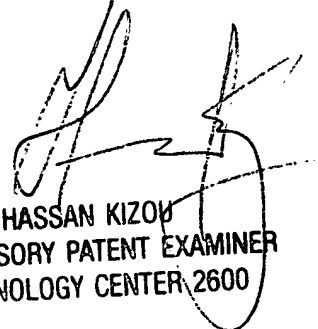
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. O'Connor whose telephone number is 571-270-1081. The examiner can normally be reached on 9:00AM-6:30PM, M-F, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian T. O'Connor
April 2, 2007


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